RULE 238 FACTORY COATING OF FLAT WOOD PANELING

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100 GENERAL

101 PURPOSE: The purpose of this Rule is to limit the emission of volatile organic compounds (VOC) from the factory application of coatings and inks to flatwood paneling as defined in Section 207, and to wood flat stock, as defined in Section 221.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule apply only to facilities located in the Sacramento Valley Air Basin portion of Placer County, as defined by California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 1.5, Article 1, Section 60106.

102.2 Business Category: The provisions of this rule shall apply to any person who applies in a shop or factory facility, coatings or inks used to coat any products defined in Section 207 or 221, or who manufactures, blends, sells, repackages, distributes or specifies, such coatings and inks. Standard Industrial Code (SIC) classifications covering these coating processes are 2431, 2435, 2436, 2492 and 2499.

103 EXEMPTIONS:

103.1 Exemption, Furniture and Cabinet Components: Surface coating of flat wood stock intended to be used as a furniture or cabinet component, is subject to Rule 236, Wood Products Coating Operations, and is exempt from all provisions of this rule.

103.2 Exemption, Non-Shop Architectural Coatings: The coating of stationary structures and their appurtenances in a non-shop operation is subject to Rule 218, Architectural Coatings, and is exempt from all provisions of this rule.

103.3 Exemption, Adhesives: The use of adhesives to manufacture flatwood panels or wood flat stock, is subject to Rule 235, Adhesives, and is exempt from all provisions of this rule.

103.4 Exemption From Requirements of Other District Rules: Any coating, ink or cleanup material which contains compounds that are subject to the VOC provisions of this rule, is exempt from the provisions of Rule 219, Organic Solvents.

103.5 Exemption - Residential, Non-Commercial Operations: Residential, non-commercial flatwood coating operations are exempt from all provisions of this rule.

103.6 Partial Exemption, Low Volume: Businesses using less than 55 gallons per year or coatings, inks and VOC-containing cleanup solvents or strippers, (singly or in combination) are exempt from the provisions of this rule, except for Recordkeeping, Section 502.

103.7 Exemption, Aerosol Coatings, Touch-Up: Aerosol-spray coatings for touch up and repair are exempt from all provisions of this rule.

103.8 Exemption, Other: The application of coatings by template in order to add designs, letters, or numbers to wood products, is exempt from all provisions of this rule.

200 DEFINITIONS

201 ADHESIVE: Any substance that is applied for the primary purpose of bonding surfaces together.

202 CAPTURE EFFICIENCY: Expressed in percent, capture efficiency is the ratio of the weight of the VOC in the effluent stream entering a control device to the weight of the VOC emitted from flatwood paneling coating operations, both measured simultaneously in accordance with Section 505.2, and can be calculated by the following equation:

$$\text{Capture Efficiency} = \frac{W_c}{W_e} \times 100$$

Where: W_c = Weight of VOC entering the control device
W_e = Weight of VOC discharged from the coating operations

203 COATING: Any coating applied on any flatwood paneling or wood flat stock including but not limited to water repellant preservative, semitransparent stains, opaque stains, Filler, or clear top coat.

204 CONTROL DEVICE EFFICIENCY: Expressed in percent, control device efficiency is the ratio of the weight of the VOC removed by the control device from the effluent stream entering the control device to the weight of VOC in the effluent stream entering the control device, both measured simultaneously in accordance with Section 505.3, and can be calculated by the following equation:

$$\text{Control Device Efficiency} = \frac{(W_c - W_a)}{W_c} \times 100$$

Where: W_c = Weight of VOC entering the control device
W_a = Weight of VOC discharged from the control device

205 EMISSION CONTROL SYSTEM: A system for reducing emissions of VOC from flatwood paneling coating operations. It consists of (1) a capture device or system which collects all drying oven exhaust and fugitive emissions from the line and transports them to the control device, and (2) a VOC control device which destroys the VOC or otherwise limits the emission of VOC to the atmosphere. The individual efficiencies are calculated in accordance with Sections 202 and 204.

The overall efficiency of the emission control system is calculated by the following equation:

$$\text{Overall Efficiency,\%} = \frac{\text{Capture Efficiency,\%} \times \text{Control Device Efficiency,\%}}{100}$$

206 EXEMPT COMPOUNDS: For the purposes of this rule, exempt compounds are as defined in Rule 102, Definitions.

207 FLATWOOD PANELING: Printed interior panels made of hardwood plywood and thin particle board, natural finish hardwood plywood, hardwood paneling, baseboard, wood flat stock, veneers, doors, door skins, wood flat product skins, tileboard and wallboard.

208 HARDBOARD: A panel manufactured primarily from inter-felted ligno-cellulosic fibers which are consolidated under heat and pressure in a hot press.

209 HARDWOOD PLYWOOD: Plywood whose surface layer is a veneer of hardwood.

210 INK: Any fluid or viscous composition used in printing impressing or transferring an image onto a panel.

211 LOW SOLIDS COATING: A coating or ink containing 120 grams or less of solids per liter (1.0 pounds or less of solids per gallon) of coating material.

212 NATURAL FINISH HARDWOOD PLYWOOD PANELS: Panels whose original grain pattern is enhanced by essentially transparent finishes frequently supplemented by fillers and toners.

213 NON-HEAT-SET INK: An ink which dries by oxidation and absorption into the substrate without the use of heat from dryers or ovens.

214 PANEL: A flat piece of wood or wood product usually rectangular and used inside homes and mobile homes for wall decorations.

215 PRINTED INTERIOR PANELS: Panels whose grain or natural surface is obscured by fillers and basecoats upon which a simulated grain or decorative pattern is printed.

216 THIN PARTICLEBOARD: A manufactured board 1/4 inch or less in thickness made of individual wood particles which have been coated with a binder and formed into flat sheets by pressure.

217 TILEBOARD: Paneling that has a colored waterproof surface coating.

218 VOC CONTENT PER LITER OF COATING, LESS WATER AND EXEMPT COMPOUNDS: The weight of VOC per combined volume of VOC and coating solids, measured in accordance with Section 505.1, and calculated by the following equation:

$$G_1 = \frac{W_v - W_w - W_{ec}}{V_m - V_w - V_{ec}}$$

Where:
- G_1 = Weight of VOC in grams per liter of coating, less water and exempt compounds.
- W_v = Weight of volatile compounds, in grams.
- W_w = Weight of water, in grams.
- W_{ec} = Weight of exempt compounds, in grams.
- V_m = Volume of coating material, in liters.
- V_w = Volume of water, in liters.
- V_{ec} = Volume of exempt compounds, in liters.

(To convert G_1 to pounds per gallon, multiply by 0.008345)

219 VOC CONTENT FOR LOW SOLIDS COATINGS: The weight of VOC in grams, per liter of low solids coating material, measured in accordance with Section 505.1, and calculated by the following equation:

$$G_L = \frac{W_v - W_w - W_{ec}}{V_m}$$

Where:
- G_L = Weight of VOC per liter of low solids coating material, less water and exempt compounds.
- W_v = Weight of volatile compounds, in grams.
- W_w = Weight of water, in grams.
- W_{ec} = Weight of exempt compounds, in grams.
- V_m = Volume of coating material, in liters.

(To convert G_L to pounds per gallon, multiply by 0.008345)

220 VOLATILE ORGANIC COMPOUND (VOC): Any chemical compound containing at least one atom of carbon, except for the Exempt Compounds listed in Rule 102, Definitions.

221 WOOD FLAT STOCK: Interior panels containing wood including but not limited to redwood stocks, plywood panels, particle boards, composition hardboards, and any other panels containing solid wood or wood product.

300 STANDARDS

301 GENERAL REQUIREMENTS: Any person applying coatings or inks to flatwood paneling products subject to this rule shall comply with either of the following requirements listed in Sections 301.1 and 301.2:

301.1 Coating Materials and Inks - Use only coatings and inks that comply with the following VOC Limits:

Coating Materials and Inks	Maximum Allowable VOC content, as applied
All coatings and inks except for Low Solids coatings and inks (below).	250 grams or less of VOC per liter (2.1 pounds VOC per gallon) less water and exempt compounds, as calculated in accordance with Section 218
Low Solids coatings and inks	120 grams or less of VOC per liter (1.0 pounds VOC per gallon) of material as calculated in accordance with Section 219

OR

301.2 Install and operate on the line(s), an Emission Control System as defined in Section 205, that operates at an overall efficiency of at least 90%, as calculated in accordance with Section 205, and that has been approved pursuant to Section 401.

302 APPLICATION EQUIPMENT REQUIREMENTS: A person or facility shall not apply coatings to wood products subject to the provisions of this rule unless the coating is applied with properly operating equipment, in accordance with proper operating procedures, and by the use of one of the following methods:

302.1 Electrostatic application

302.2 High volume, low pressure (HVLP) spray

302.3 Hand roller

302.4 Flow coat

302.5 Roll coater

302.6 Dip coat

302.7 Paint brush

302.8 Detailing or touch-up guns

303 CLEANUP AND STORAGE PROCEDURES: Any person or facility using VOC-containing solvents for cleanup or related uses shall observe the following procedures:

303.1 All solvent, including waste solvent and waste solvent residues, shall be stored in closed containers at all times. Each container shall have a label indicating the name of the solvent or material it contains.

303.2 If recovery of waste solvent by distillation is performed, solvent residues shall not contain more than 10 percent solvent by volume after distillation.

400 ADMINISTRATIVE REQUIREMENTS

401 OPERATION AND MAINTENANCE PLAN: A person using an existing emission control system as a means of compliance with this rule, pursuant to Section 301.2, shall submit an Operation and Maintenance Plan for the emission control system to the Air Pollution Control Officer for approval. A person proposing to install a new emission control system as a means of compliance with this rule, shall submit in addition to an Operation and Maintenance Plan, an application for an Authority to Construct, pursuant to Rule 501, General Permit Requirements. The Plan shall specify operating and maintenance procedures which will demonstrate continuous operation of the emission control system during periods of emissions-producing operations. The Plan shall also specify which records shall be kept to document these operating and maintenance procedures. These records shall comply with the requirements of Sections 503. The Plan shall be implemented upon approval of the Air Pollution Control Officer.

500 MONITORING AND RECORDS

501 COATING LIST: Any person subject to Section 301 shall maintain at the facility, a current list of coatings and inks in use, which includes all of the data necessary to evaluate compliance with the standards of this rule.

502 RECORDKEEPING: Any person subject to this Rule shall maintain records on a daily basis that provide the following information as applicable:

502.1 Coating types and mix ratios of components used

502.2 Quantity of each coating applied

502.3 Description of substrate(s) coated

502.4 Oven or cure temperature, if applicable

502.5 Type and amount of solvent used for cleanup and surface preparation

503 EMISSION CONTROL SYSTEM RECORDS: A person using an emission control system as a means of compliance with this rule pursuant to Section 301.2, shall maintain daily records of key system operating and maintenance procedures which will demonstrate continuous operation and compliance of the emission control system during periods of emission-producing activities. Key system operating parameters are those necessary to ensure compliance with the requirements of Section 301.2.

504 RETENTION OF RECORDS: All records maintained pursuant to this rule shall be retained for at least three years from date of entry, with the exception of sources subject to the requirements of Rule 507, Federal Operating Permit Program. These sources shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

505 TEST METHODS

505.1 Determination of VOC Content: VOC content of flatwood paneling coatings shall be determined in accordance with United States Environmental Protection Agency (U.S. EPA) Method 24 or U.S. EPA Method 24A and Sections 218, 219 and 220 of this rule.

505.2 Determination of Capture Efficiency: Efficiency of the capture system, calculated in accordance with Section 202, shall be based upon test measurements made in accordance with U.S. EPA "Guidelines for Determining Capture Efficiency, January 9, 1995". Individual capture efficiency test runs subject to the U.S. EPA technical guidelines shall be determined by:

505.2.1 Applicable U.S. EPA methods 204, 204A, 204B, 204C, 204E, and/or 204F; or

505.2.2 The South Coast Air Quality Management District "Protocol for Determination of Volatile Organic Compound (VOC) Capture Efficiency"; or

505.2.3 Any other method approved by U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.

505.3 Determination of Control Device Efficiency: Efficiency of the emissions control device, calculated in accordance with Section 204, shall be based upon test measurements made in accordance with (1) U.S. EPA Method 18, 25, or 25A, for VOC concentration, and (2) U.S. EPA Method 2 or 2C for flow rates, as applicable.